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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,284	02/08/2001	George A. Huff JR.	37,248-02	6591

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EXAMINER	
GRIFFIN, WALTER DEAN	
ART UNIT	**PAPER NUMBER**
1764	10

DATE MAILED: 04/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/779,284	Applicant(s) HUFF ET AL.	
	Examin r Walter D. Griffin	Art Unit 1764	

-- Th MAILING DATE of this communication appears on the cover sh t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,5-12 and 18-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,5-12 and 18-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

The rejections described in paper no. 7 have been withdrawn in view of the amendment filed on February 10, 2003 and remarks contained therein. New rejections follow.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 5-12, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatanaka et al. (6,217,748) in view of Bowles (2,953,521) and Savage et al. (5,454,933).

The Hatanaka reference discloses a process for the production of a fuel (i.e., diesel fuel). The process comprises hydrotreating a sulfur-containing diesel gas oil feed in a first step. The feed to this first step boils in the range of 200° to 380°C. The sulfur content of this feed is not particularly limited but is usually about 1 to 2 weight percent (10000 to 20000 ppm). In the first hydrotreatment step, the feed and hydrogen contact a catalyst to produce a hydrotreated product. Example 1 indicates that the first stage product has a sulfur content of 0.048 wt% (480 ppm). The first stage product is then separated into a light fraction and a heavy fraction by distillation. The cut point temperature for this separation is in the range of 300° to 350°C. The heavy fraction is further hydrotreated by contacting it and hydrogen with a catalyst in a second hydrotreating step. The catalyst used in the first hydrotreating step contains a carrier such as alumina and Group VI and VIII metals such as molybdenum, tungsten, cobalt, and nickel. A similar catalyst may be used in the second hydrotreating step. The amount of metal in the catalyst can range from 1 to 40 parts based on 100 parts of a carrier. The product from the second hydrotreating step is blended with the light fraction obtained in the distillation step to produce a diesel fuel. This fuel would have a flash point within the claimed ranges. See col. 2, line 47 through col. 3, line 56; col. 4, line 11 through col. 5, line 23; col. 5, line 65 through col. 6, line 24; col. 6, line 56 through col. 7, line 8; col. 7, line 66 through col. 8, line 43.

To the extent that the Hatanaka reference does not disclose sulfur amounts within the claimed ranges, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Hatanaka to obtain sulfur levels within the

claimed ranges because Hatanaka discloses that reaction conditions can be optimized to obtained any sulfur content desired.

The Hatanaka reference does not disclose recovering by fractional distillation a crude hydrotreated high-boiling liquid and does not disclose the further treatment of the product from the second hydrotreatment.

The Bowles reference discloses the fractionation of the effluent from a hydrodesulfurization process. Stripping steam can be employed in the fractionator. See col. 3, lines 31-41 and col. 4, lines 54-72.

The Savage reference discloses the further treatment of a hydrotreated hydrocarbon by contacting the hydrocarbon with an adsorbent such as alumina. See col. 1, line 49 through col. 2, line 14; col. 2, lines 47-54; and col. 3, lines 18-36.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Hatanaka by fractionating the hydrotreated high-boiling liquid as suggested by Bowles because lighter components will be stripped from the hydrotreated liquid.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Hatanaka by further treating the product from the second hydrotreatment step by contacting it with an adsorbent as suggested by Savage because a product with a lower sulfur content will be recovered as compared to a product that is not further treated.

Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hatanaka et al. (6,217,748) in view of Bowles (2,953,521) and Jossens et al. (6,228,254).

As discussed above, the Hatanaka reference does not disclose recovering by fractional distillation a crude hydrotreated high-boiling liquid and does not disclose the further treatment of the hydrotreated product by contacting with an immiscible liquid.

The Bowles reference discloses the fractionation of the effluent from a hydrodesulfurization process. Stripping steam can be employed in the fractionator. See col. 3, lines 31-41 and col. 4, lines 54-72.

The Jossens reference discloses the further treatment of a hydrotreated hydrocarbon by contacting the hydrocarbon with a caustic (i.e., alkali metal hydroxide) stream. See col. 5, lines 16-44.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Hatanaka by fractionating the hydrotreated high-boiling liquid as suggested by Bowles because lighter components will be stripped from the hydrotreated liquid.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Hatanaka by further treating the product from the second hydrotreatment step by contacting it with a caustic stream as suggested by Jossens because a product with a lower sulfur content will be recovered as compared to a product that is not further treated.

Response to Arguments

The argument concerning the lack of a suggestion to fractionally distill the hydrogen contacted high-boiling feedstock is not persuasive. This limitation has been addressed by the application of the Bowles reference as described above in the new grounds of rejection.

The argument that the Jossens reference is not relevant to the claimed process is not persuasive. Jossens is applied only to show that hydrocarbon streams can be treated with a caustic stream to remove specific sulfur compounds. The examiner believes that this teaching would necessarily apply to the streams in the claimed process because such stream are sulfur-containing hydrocarbon streams.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is 703-305-3774. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
April 8, 2003